

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Dany Sylvain
Serial No. 10/693,540
Filed: 10/24/2003

Examiner: Phuong, Dai
Art Unit: 2617

For: **CALL TRANSFER FOR AN INTEGRATED WIRELINE AND WIRELESS
SERVICE USING A TEMPORARY DIRECTORY NUMBER**

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. § 1.131 OF BENJAMIN S. WITHROW

1. My name is Benjamin S. Withrow of the law firm of Withrow & Terranova, PLLC, and I am a registered U.S. patent attorney, Registration No. 40,876.
2. Starting in 2000, and continuing until the present time, I have been retained as outside counsel for Nortel Networks Limited (hereinafter "Nortel"), the assignee of the present application.
3. In May 2003, I received instructions from Nortel to prepare and file a provisional patent application for an Invention Disclosure entitled "WLAN Call Handoff to Wireless Using Dynamically Assigned Temporary Number," which is attached to this Declaration as Appendix A (hereinafter "Invention Disclosure"). This Invention Disclosure was assigned attorney docket number 7000-271.
4. The Invention Disclosure was submitted by the inventor, Dany Sylvain, on April 23, 2003.
5. Prior to May 2003, I received instructions from Nortel to prepare and file patent applications for a number of previous Invention Disclosures. One of these previous Invention Disclosures was entitled "Simple Method to Handover WLAN Voice Call to a Cellular Network"

(hereinafter “the 15795 invention disclosure”), which is attached as Appendix B. I received instructions from Nortel to prepare and file a patent application for the 15795 invention disclosure on February 6, 2003. Between February 6, 2003 and April 8, 2003, I worked with inventor Dany Sylvain to prepare a patent application for the 15795 invention disclosure. As a result, U.S. Patent Application Serial No. 10/409,290 was filed on April 8, 2003 and is directed to the subject matter of the 15795 invention disclosure.

6. From the time of receiving instructions from Nortel to prepare and file patent applications for a number of previous Invention Disclosures until about October 24, 2003, I worked to prepare patent applications for the number of previous Invention Disclosures in essentially a chronological, first-in-first-out fashion.

7. Starting from a period after May 7, 2003, and continuing through May 21, 2003, I diligently reviewed the Invention Disclosure, spoke with the inventor Dany Sylvain, and diligently worked to prepare a provisional patent application for the invention disclosed in the Invention Disclosure. A provisional application was filed on May 21, 2003 as Serial No. 60/472,277 (hereinafter “the Provisional Application”) directed to the subject matter of the Invention Disclosure. The Provisional Application also incorporated by reference U.S. Patent Application Serial No. 10/409,290, which is directed to the subject matter of the 15795 invention disclosure. The Provisional Application fully discloses the claims of the present invention.

8. On June 20, 2003, I received instructions from Nortel to prepare and file a regular utility application that claimed priority to the Provisional Application, which are attached as Appendix C. Starting from June 20, 2003, and continuing through October 24, 2003, I diligently reviewed the Invention Disclosure, met with the inventor Dany Sylvain, and diligently worked to prepare a regular utility patent application that claimed priority to the Provisional Application and claimed the invention disclosed in the Invention Disclosure.

9. On July 30, 2003, my assistant, Jennifer Alkove, sent a first draft of the Patent Application (hereinafter “First Draft”) to the inventor, as evidenced by the e-mail attached to this Declaration as Appendix D.

10. On or before August 25, 2003, I received comments from the inventor regarding the First Draft, as evidenced by the excerpt from a spreadsheet attached to this declaration as Appendix E.

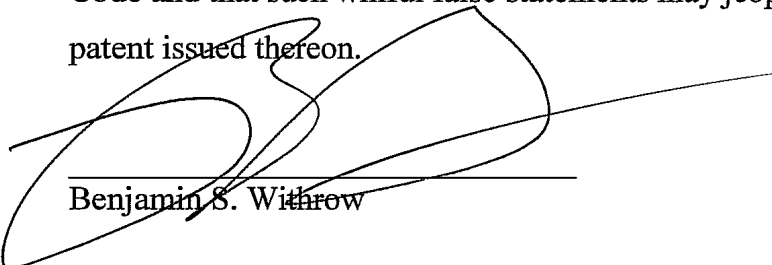
11. On August 25, 2003, I revised the Patent Application to incorporate the comments from the inventor for the First Draft, and sent a revised Patent Application to in-house counsel at Nortel, as evidenced by the spreadsheet attached to this declaration as Appendix E.

12. On August 25, 2003, my assistant, Jennifer Alkove, sent a copy of the revised Patent Application and the inventor declaration and assignment document to the inventor to be signed, as evidenced by the spreadsheet attached to this declaration as Appendix E.

13. On October 23, 2003, I received approval from in-house counsel at Nortel to file the Patent Application substantially as drafted in the Patent Application sent to in-house counsel on August 25, 2003, as evidenced by the spreadsheet attached to this declaration as Appendix E.

14. On October 24, 2003, the Patent Application was filed with the U.S. Patent & Trademark Office and was assigned Application Serial Number 10/693,540. The Patent Application claimed priority to the Provisional Application filed May 21, 2003, and incorporated by reference the disclosure of the 15795 invention disclosure (U.S. Patent Application Serial No. 10/409,290).

15. I hereby declare that all declarations made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Benjamin S. Withrow

December 10, 2007

Date

Appendix A

1000-271-7

Invention Disclosure Submission Reply

Disc No:	16076RO	Received Date:	23 apr 2003
Disclosure Title:	WLAN call handoff to wireless using dynamically assigned temporary number		

==== Inventors =====

Global Id	Name	Work Info	Home Info
150485 1	HR Name: SYLVAIN, DANY Known As: DANY Email: sylvain@nortelnetworks.com Mgr First Name: STEPHEN Mgr Last Name: ELLIOTT Mgr Global ID: 1010825	Location: 3500 CARLING AVENUE NEPEAN ONTARIO K2H 8E9 CANADA Location Code: CAR Dept: 3A10 Phone: 3937925 Ext Phone: 6137637925 Fax: 6137653313 Ext Fax: 6137653313 MailStop: 04352H09 Citizenship: CANADA	Address: 6 RUE D'ANJOU GATINEAU, QC CANADA J8T 6A6 Phone: Q8195614981

==== Attachments =====

File Name	File Type	File Comments
Enhanced_WLAN_to_wireless_call_handoff.ppt	Microsoft Powerpoint (*.ppt)	

<End of Attachments>

Were there additional inventors involved: no		Was there contractor involvement: no	
Name of Supervisor or Divisional Head:		Name of VP:	
STEVE ELLIOTT		SUE SPRADLEY	
LOB:	WIRELINE NETWORKS	Business Unit:	TDM PORTFOLIO & SOLUTIONS DELIVERY
Conception Date:			
Has this invention been discussed with others? If so, please complete:			
Inside Nortel - Whom?		Outside Nortel - Whom?	
Inside Nortel - When?		Outside Nortel - When?	
NDA? no			
Are you aware of any imminent future disclosures? Please provide dates and details:			

Keywords for Searching:		Products that will use this invention:	
Call handoff, WLAN, wireless, cellular, registration,		Succession, IMS, Wireless	
Does this invention arise from any arrangement involving an external organization?			
Is this invention relevant to a Standards Activity?		Internal Funding Project #s:	
no			

Technical Information

Brief Description of the Invention:

Disclosure 15795 described how to transfer a wireline/WLAN call to a cellular network to a pre-configured number associated to the handset when in cellular mode. This invention removes the dependency to assign a pre-configured number and allows the same public phone number to be used for both networks.

Problem Solved by the Invention:

Multiple DN and billing (one per network) simplified to one DN and bill. In addition, 15795 involved a 5-10 seconds interval to perform the handoff. By pre-registering the handset in the cellular network prior to needing the transfer allows the call handoff to be accelerated to 2-3 seconds.

Solutions that have been tried and why they didn't work:

Pre-provisioned DN: Required configuration work.

Specific elements or steps that solved the problem and how they do it:

See charts.

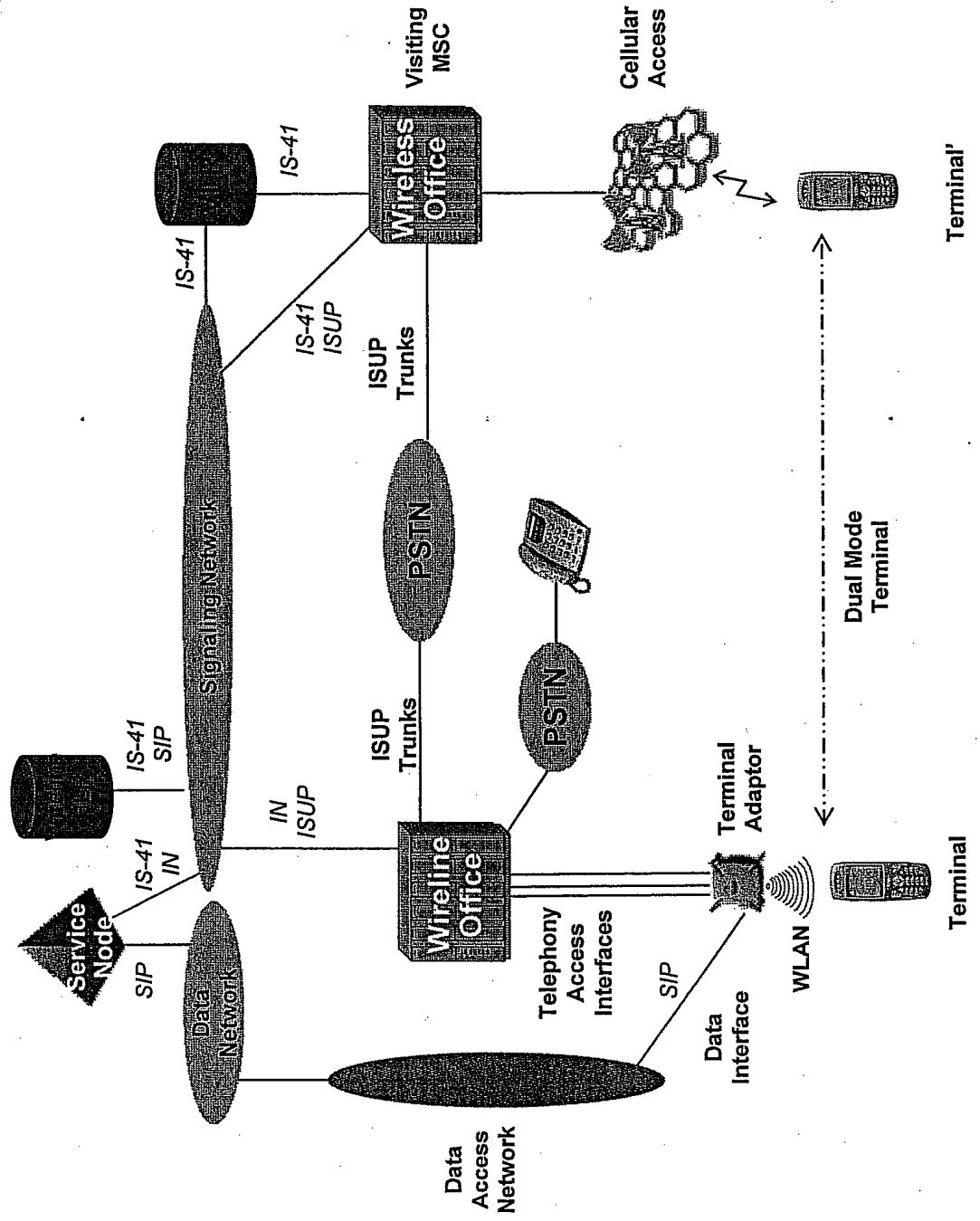
Commercial value of the invention to Nortel and Nortel's major competitors:

Simplified business arrangements, faster handoffs, fewer DN required, improves the value of a combined WLAN Wireless offer.

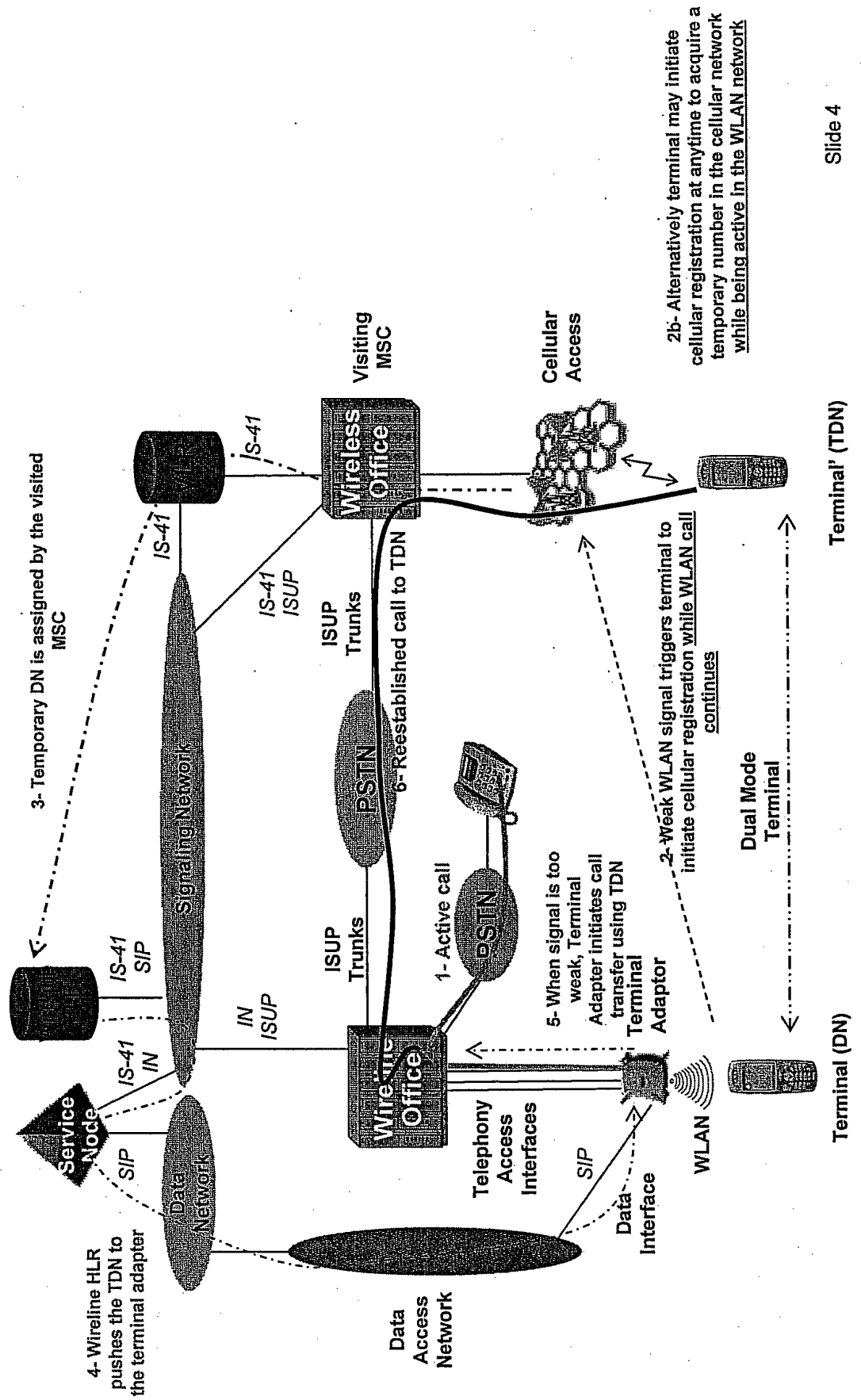
The diagram illustrates a sequence of events in a call transfer and handoff process across six lifelines: PSTN, Switch, Service Node, Terminal Adapter, Phone DN1, and Phone DN2.

- Initial Call:** PSTN sends ISUP IAM (Called: DN1) to Switch. Switch sends IN TAT (Caller: DN0, Called: DN1) to Service Node.
- Service Node Action:** Service Node sends SIP INVITE (From: <DN0>, To: <DN1>) to Terminal Adapter. Terminal Adapter sends SIP 380 Alternate Service (PSTN) to Service Node.
- Service Node Action:** Service Node sends IN Continue to Switch.
- Service Node Action:** Service Node sends Ringing to Terminal Adapter.
- Terminal Adapter Action:** Terminal Adapter sends ISUP ACM to Switch.
- Switch Action:** Switch sends ISUP ANM to Service Node.
- Service Node Action:** Service Node sends Analog to Terminal Adapter.
- Terminal Adapter Action:** Terminal Adapter sends Voice connection to Phone DN1.
- Phone DN1 Action:** Phone DN1 sends WLAN to Terminal Adapter.
- Phone DN1 Action:** Phone DN1 sends Phone DN1 moving out of range of TA to Terminal Adapter.
- Terminal Adapter Action:** Terminal Adapter sends Loss of signal to Service Node.
- Service Node Action:** Service Node sends Call Transfer (to: DN1') to Switch.
- Switch Action:** Switch sends PSTN call on hold to PSTN.
- Switch Action:** Switch sends ISUP IAM (Caller: DN0; called: DN1') to Service Node.
- Service Node Action:** Service Node sends ISUP ACM to Switch.
- Switch Action:** Switch sends ISUP ANM to Service Node.
- Service Node Action:** Service Node sends Connection dropped to Switch.
- Switch Action:** Switch sends TDM to Service Node.
- Service Node Action:** Service Node sends PSTN call reconnected to Switch.
- Switch Action:** Switch sends TDM to Service Node.
- Service Node Action:** Service Node sends Voice connection to Terminal Adapter.
- Terminal Adapter Action:** Terminal Adapter sends ISUP REL to Switch.
- Switch Action:** Switch sends ISUP REL to PSTN.
- Phone DN2:** Phone DN2 is shown as a lifeline but has no messages.

Improved Network



Improved Call handoff to wireless



Appendix B

Nortel Networks Confidential & Privileged Information

Invention Disclosure Submission Reply

Disc No:	15795RO	Received Date:	19 dec 2002
Disclosure Title:	Simple method to handover WLAN voice call to a cellular network		

----- Inventors -----

Global Id	Name	Work Info	Home Info
150485 1	HR Name: SYLVAIN, DANY Known As: DANY Email: sylvain@nortelnetworks.com Mgr First Name: STEPHEN Mgr Last Name: ELLIOTT Mgr Global ID: 1010825	Location: 3500 CARLING AVENUE NEPEAN ONTARIO K2H 8E9 CANADA Location Code: CAR Dept: 3A10 Phone: 3937925 Ext Phone: 6137637925 Fax: 6137653313 Ext Fax: 6137653313 MailStop: 04352H09 Citizenship: CANADA	Address: 6 RUE D'ANJOU GATINEAU, QC CANADA J8T 6A6 Phone: 08195614981

----- Attachments -----

File Name	File Type	File Comments
W-CentrexIP.ppt	Microsoft Powerpoint (*.ppt)	

<End of Attachments>

Were there additional inventors involved:		no		Was there contractor involvement:		no	
Name of Supervisor or Divisional Head:				Name of VP:			
STEVE ELLIOTT				SUE SPRADLEY			
LOB:		WIRELINE NETWORKS		Business Unit:		CTO/VOIP	
Conception Date:							
<p align="center">Has this invention been discussed with others? If so, please complete:</p>							
Inside Nortel - Whom?				Outside Nortel - Whom?			
Inside Nortel - When?				Outside Nortel - When?			
NDA?		no					
<p align="center">Are you aware of any imminent future disclosures? Please provide dates and details:</p>							

Nortel Networks Confidential & Privileged Information

Keywords for Searching: VoIP, WLAN, handover, cellular		Products that will use this invention: DMS, Succession, CentrexIP, Meridian 1	
Does this invention arise from any arrangement involving an external organization?			
Is this invention relevant to a Standards Activity? no		Internal Funding Project #'s:	

Technical Information

Brief Description of the Invention:

A WLAN is used to provide mobile VoIP based telephony in a home zone. If the user starts moving and gets out of the WLAN home zone, the call will get dropped. To prevent this, the mobile terminal is equipped also with cellular capability and is served by an existing wireless network. As the signal strength deteriorates, bit error rate will increase and gets detected by the VoIP gateway controlling the WLAN phone. This triggers the VoIP gateway to signal to the serving telephony switch, on behalf of the user, to transfer the call to the number corresponding to the DN of the same terminal in the wireless network. At the moment of transfer, tones are inserted in the call path by the VoIP gateway to signal to the call party that the transfer will take place.

Alternatively, the user of the WLAN terminal can proactively request the call transfer to the cellular DN and switch over the mode of the terminal.

Problem Solved by the Invention:

No handoff of calls between private and public wireless network.

Solutions that have been tried and why they didn't work:

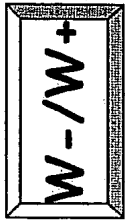
Pico cell used by cellular network but they require the same service provider for both pico and macro cells.

Specific elements or steps that solved the problem and how they do it:

See charts.

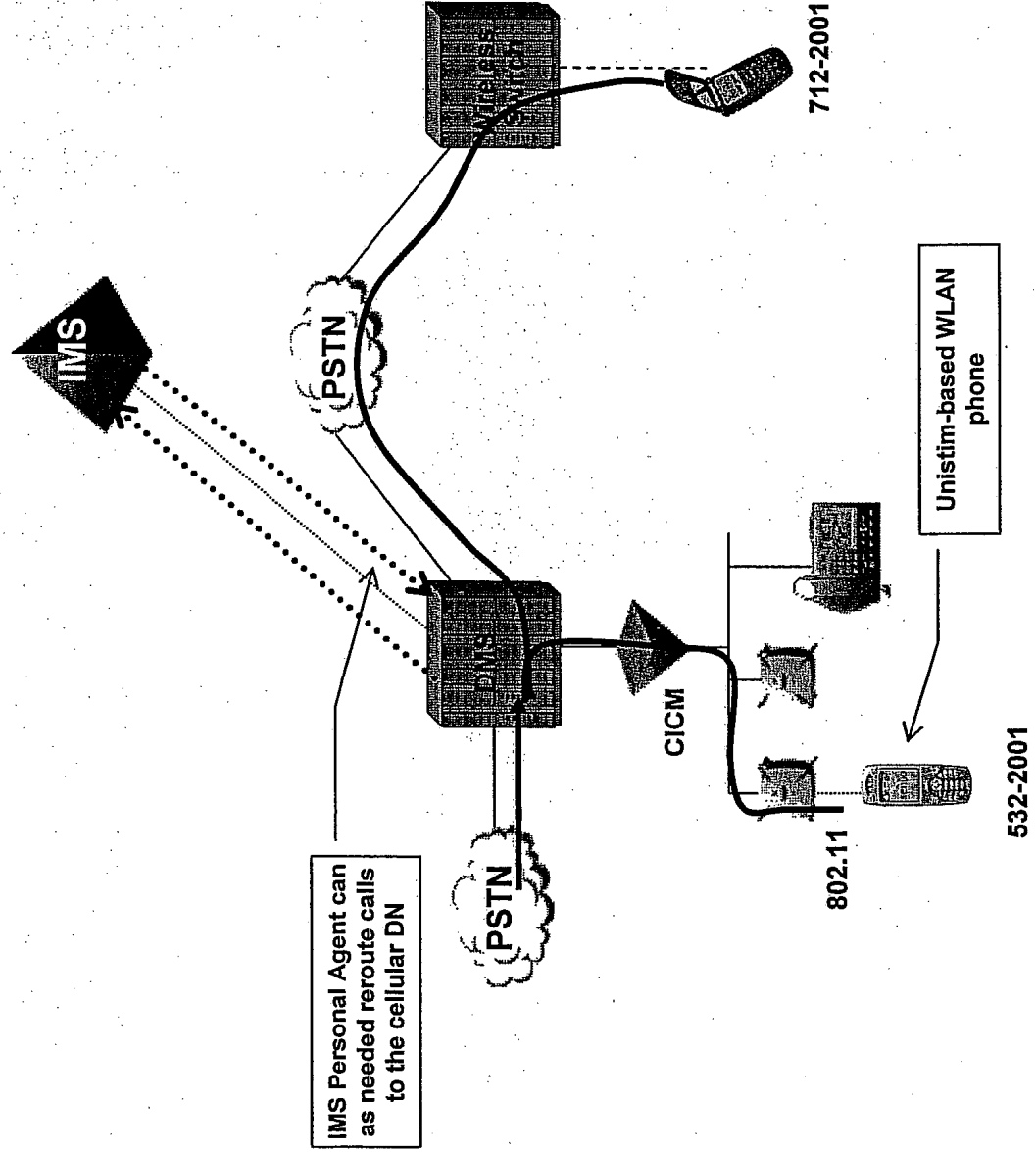
Commercial value of the invention to Nortel and Nortel's major competitors:

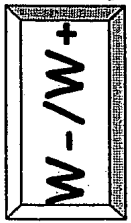
Allow users to have mobility from office/home to public network with minimum impact on active call. Provide synergies between wireline and wireless network solutions.



WLAN CentrexIP

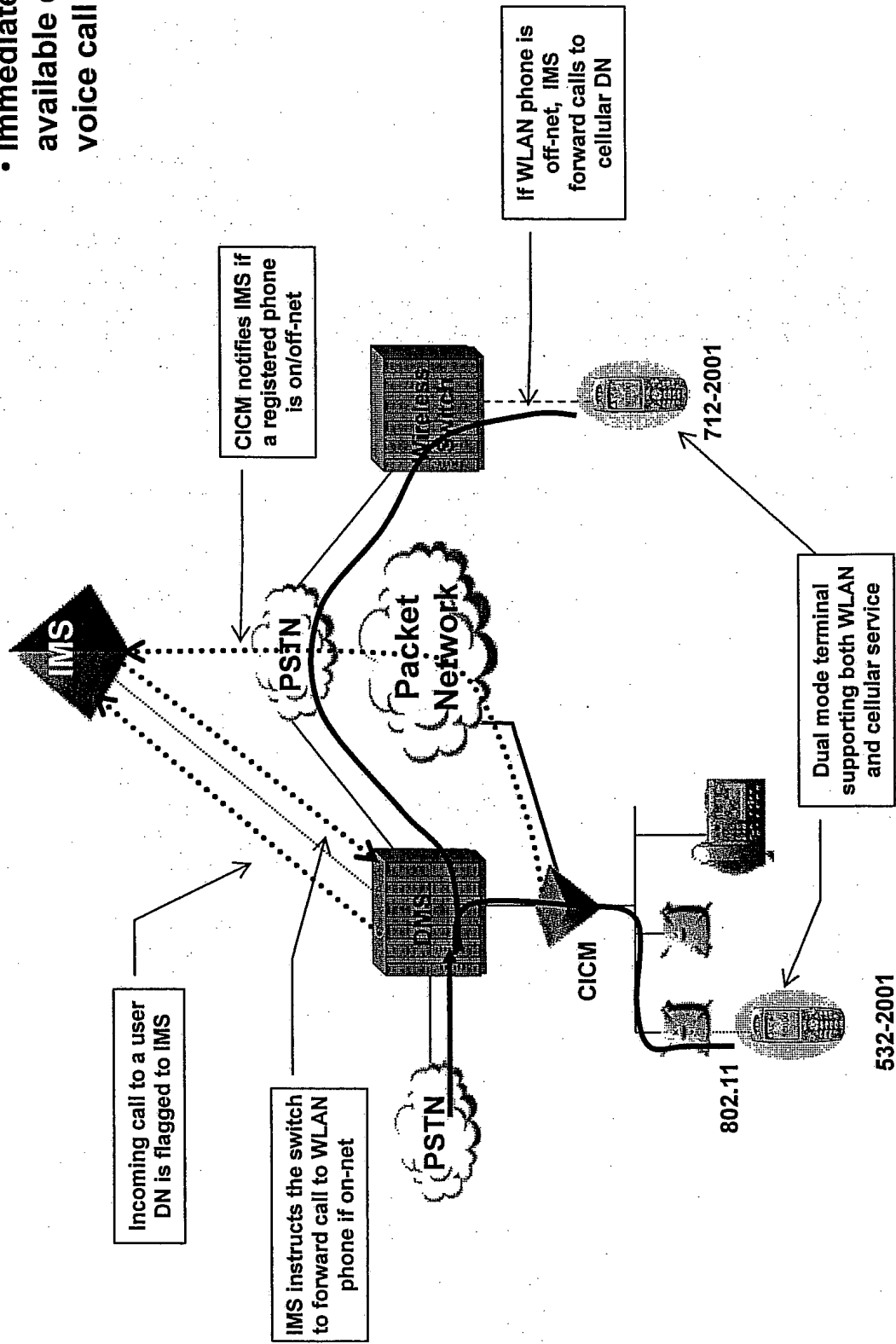
- Office mobility with full Centrex feature set

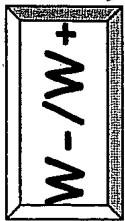




WLAN CentrexIP Roaming

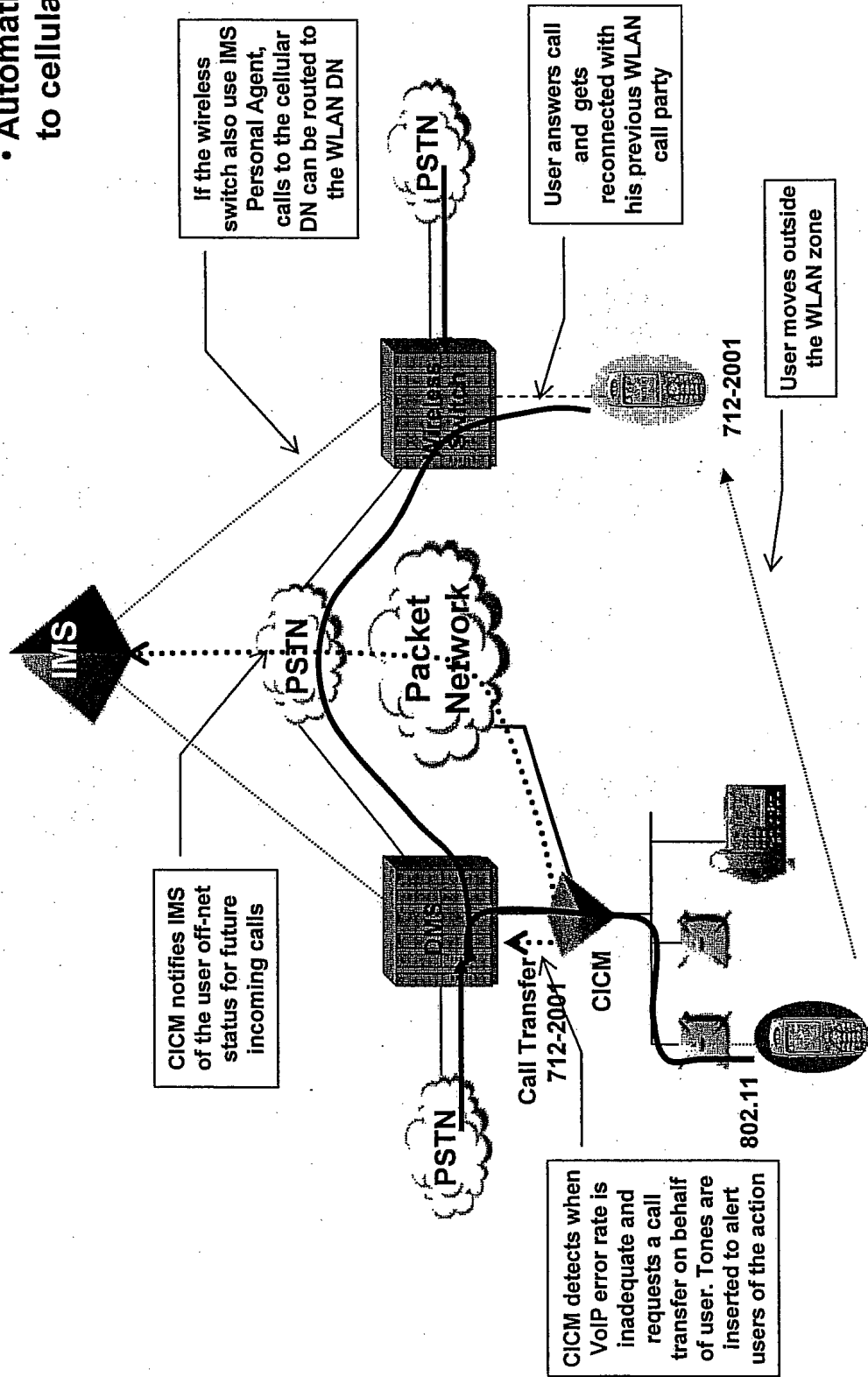
- Immediate routing to best available connection for voice call





WLAN CentrexIP with handover

- Automatic handoff of calls to cellular as needed



Appendix C

PRIVILEGED AND CONFIDENTIAL

REVIEW SUMMARY/DISPOSITION FORM

Disclosure No: 16076RO

Date Submitted: 4/23/03

Date of Review: 5/7/03

Reviewed By: Rick Witcher, Wireline
Patent Review Committee

Inventor(s): Dany Sylvain

Title: WLAN CALL HANDOFF TO WIRELESS USING DYNAMICALLY ASSIGNED TEMPORARY
NUMBER

<u>LINE OF BUSINESS</u>	<u>BUSINESS UNIT</u>	<u>BUSINESS OWNER</u>	<u>PRODUCT/PROJECT</u>	<u>1ST VP</u>	<u>BUSINESS PRIME</u>	<u>PRODUCT GP</u>
Wireline Networks	Wireline Networks	Sue Spradley		Steven Elliott	Dany Sylvain	

TECHNOLOGY FIELD (Select Appropriate Field – Switching, Software, etc):

Wireline/Wireless Integration

NUB OF THE INVENTION (What is the invention / Why is it technically important):

This invention allows transfer of Wireline/WLAN call to cellular network without having to assign a preconfigured number associated with the handset when in cellular mode. This invention allows the same public phone number to be used for both networks.

VALUE STATEMENT (Brief Statement of Basis of Commercial Value):

Simplified arrangement, faster handoffs, multiple DN's and billing simplified to one DN and one bill, improves value of combined WLAN/Wireless solution offer.

COMMENTS (Related disclosures, etc):

STANDARDS INFORMATION:

[Indicate relevance to standards including relevant standard, standards body, standards contact, status of relevant standard submission(s), and status date]

Standards Body: No Known Standards

Standards Identifier :

Standard Status (candidate for submission, submitted, adopted):

Study Maturity (lead, technically reviewed, claim chart):

Standards Contact (standards prime):

KEY WORDS

Call handoff, wireless, WLAN, register, single DN

RELATED PRODUCT

MINING AREA:

Wireline/Wireless Integration

COMPETITOR(S):

Appendix D

7000-285
271

NORTEL NETWORKS

4006 E. Highway 54
Dept. N237, MS D16/02/0E2
Network Center 2
Durham, North Carolina 27713
Tel 919.997.3479
Fax 919.997.6659
rwitcher@nortelnetworks.com

www.nortelnetworks.com

John R. Witcher, III
Senior Counsel

NORTEL NETWORKS CONFIDENTIAL & PRIVILEGED COMMUNICATION

June 20, 2003

VIA FEDERAL EXPRESS

Benjamin S. Withrow, Esq.
Withrow & Terranova
201 Shannon Oaks Circle
Suite 200
Cary, NC 27512

Re: **Invention Docket No.: 16076ROUS01P/16076ROUS02U**
Title: *WLAN Call Handoff to Wireless Using Dynamically*
Assigned Temporary Number
Target Filing Date: September 20, 2003

Dear Ben:

Nortel Networks would like to retain you to prepare and file in the United States Patent and Trademark Office (USPTO) a utility patent application claiming priority to the above-referenced provisional application (60/472,277 filed May 21, 2003) and directed to the invention disclosed in the enclosed invention disclosure by the above-referenced filing date. The application should be prepared according to Nortel Networks guidelines in accordance with the predetermined fee we have agreed with your firm. If you are unable to perform the requested work, please advise me immediately.

In addition to the invention disclosure, an invention disclosure Review Summary document is enclosed for your consideration. We request that you contact the primary inventor, Dany Sylvain, at (613) 763-7925 within two weeks of receiving this letter. Please ensure that the inventor(s) are advised of their responsibilities regarding their duty of candor to the USPTO, as well as any other relevant rules and/or laws including the best mode requirement.

Questions pertaining to substantive issues associated with the application should be addressed with me, while administrative issues associated with the application should be addressed with Theresa Boyce. Please be sure that all communications associated with the application, including billing statements and the application itself bear the above-referenced disclosure number.

Please send a substantially complete and final draft of the application to me along with a completed Nortel Networks Outsource's Patent Application Checklist at least 10 days prior to the above-referenced filing date to provide Nortel Networks' Intellectual Property Law Group sufficient opportunity to review the application prior to filing. You should seek to obtain the signatures on the formal papers from all inventors directly.

**Please confirm receipt of this disclosure via facsimile to the above-identified number.
Please include your assigned reference number.**

Upon filing the application with the USPTO, immediately fax a copy of the application transmittal letter to me, so that we have a record that the application has been filed. Thereafter, please send me a hardcopy of the application as filed along with an electronic copy in Microsoft Word 6.0 readable format on a 3 1/2" floppy disk.

Should you have any questions, please call me at (919) 997-3479.

Very truly yours,



Rick Witcher

Enclosures: Invention Disclosure No.: 16076RO
Review Summary
Patent Application Outsource Checklist

JRW:slw

cc: Dany Sylvain

Appendix E

Jennifer Alkove

From: Jennifer Rush Alkove [jrush@withrowterranova.com]
Sent: Wednesday, July 30, 2003 2:59 PM
To: 'sylvain@nortelnetworks.com'
Cc: Bsw (E-mail)
Subject: First Draft of 16076ROUS02U (our file 7000-271)

Dear Dany:

Please find attached a first draft of the above-referenced patent application. The .zip file is protected with the password that we have used in previous applications. If you have any problems opening the attached file, please let me know. Please review the application and drawings carefully for accuracy and completeness, making any changes, additions, or corrections, if any, directly on the application (or electronically with changes tracked).

Please recall that the application must clearly explain the best mode of practicing the invention for which protection is desired. Also, the application must explain to an individual of ordinary skill in the art how to make and use the invention. After reviewing the application, please forward any comments to Ben Withrow and me. We will then send you a revised draft of the application, along with formal paperwork prepared for your signature. After receipt of the signed paperwork and approval from Nortel's legal department, we will file the application.

Please do not hesitate to contact Ben Withrow or me should you have any questions regarding the application. Thank you for allowing us to be of service to you and for your prompt attention to this matter.

Best regards,

Jennifer Rush Alkove
Withrow & Terranova, P.L.L.C.
201 Shannon Oaks Circle, Suite 200
Cary, NC 27511
Ph: (919) 654-4520
Fax: (919) 654-4521

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16076ROUS02U
First Draft.zip (...)

Appendix F

Jennifer Alkove

From: Jennifer Rush Alkove [jrush@withrowterranova.com]
Sent: Monday, August 25, 2003 12:03 PM
To: 'sylvain@nortelnetworks.com'
Cc: Bsw (E-mail)
Subject: Revised Draft and Paperwork for 16076ROUS02U (our file 7000-271)

Dear Dany:

Please find attached two versions of the revised draft for the above-referenced application, one with changes tracked and one clean copy. The .zip file is protected with the password used previously. If you have any problems opening the attached file, please let me know. Please review the application and drawings carefully for accuracy and completeness, making any changes, additions, or corrections, if any, directly on the application (or electronically with changes tracked).

Please forward any additional comments to Ben Withrow (bwithrow@withrowterranova.com). Formal paperwork is also attached for your signature once your review is complete. Please sign and date the paperwork where indicated and return the documents to us for filing. After receipt of the signed paperwork from you and approval from Nortel's legal department, we will file the application.

Please do not hesitate to contact Ben Withrow or me should you have any questions regarding the application. Thank you for allowing us to be of service to you and for your prompt attention to this matter.

Best regards,

Jennifer Rush Alkove
Withrow & Terranova, P.L.L.C.
201 Shannon Oaks Circle, Suite 200
Cary, NC 27511
Ph: (919) 654-4520
Fax: (919) 654-4521

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16076ROUS02U
Revised Draft and...